

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 93-067
NPDES PERMIT NO. CA0029904
WASTE DISCHARGE REQUIREMENTS FOR:

CROCKETT COGENERATION,
A CALIFORNIA LIMITED PARTNERSHIP
CROCKETT, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter Board, finds that:

1. Crockett Cogeneration, a California Limited Partnership (hereinafter the Discharger) submitted a NPDES Permit Application dated February 8, 1993.
2. The Discharger intends to produce a maximum of 450,000 lbs/hr of steam with a maximum net electrical output of 240 MW. The Discharger proposed to discharge its wastewater through California and Hawaiian Sugar company (hereinafter C&H)'s deep water outfall line. C&H discharges wastewater through a deep water outfall in Carquinez Strait which is a water of the United States. Wastewater discharged by C&H is governed by NPDES Permit No. CA0005240.
3. The Report of Waste Discharge describes the discharge as follows:
 - A. Waste 001:
 - a. Waste 001A shall consists of an average of 24,480 gpd of evaporative cooler blowdown with a maximum of 45,400 gpd. This waste is mixed with other streams in neutralization tank prior to discharge into a combined outfall.
 - b. Waste 001B shall consists of an average of 28,200 gpd of demineralizer regenerant with a maximum of 181,200 gpd. This waste is neutralized in a neutralization tank prior to discharge into combined outfall.
 - c. Waste 001C shall consists of an average of 28,800 gpd of boiler blowdown with a maximum of 49,000 gpd. This waste is cooled by mixing with other streams in a neutralization tank prior to discharge into combined outfall.

The above wastes are all mixed in the same neutralization tank prior to discharge into a combined outfall.

4. The U.S. Environmental Protection Agency (EPA) and the Board have classified this discharge as a minor discharge.
5. All storm water associated with industrial activities is proposed to be routed through a oil water separator prior to discharge to Crockett-Valona Sanitary District.
6. The Board amended its Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on September 16, 1992, and the State Water Resources Control Board (State Board) approved it on April 27, 1993. The Board amended the Basin Plan on October 21, 1992 to adopt a site-specific water quality objective of 4.9 ug/l for copper for San Francisco Bay and a deep water effluent limit of 37 ug/l for copper. This amendment has not yet been approved by the State Board.
7. The State Board adopted the Enclosed Bays and Estuaries Plan on April 11, 1991. The Enclosed Bays and Estuaries Plan contains a water quality objective of 2.9 ug/l for copper. This permit contains an effluent limit for copper of 17 ug/l based on the water quality objective in the Enclosed Bays and Estuaries Plan. This permit contains a reopener clause so that once the State Board has approved the site-specific water quality objective for copper for San Francisco Bay, the revised effluent limit may be amended into this permit.
8. The beneficial uses of Carquinez Strait and contiguous waters are:
 - a. Industrial Service Supply.
 - b. Navigation.
 - c. Water Contact Recreation.
 - d. Non-Contact Recreation.
 - e. Ocean Commercial and Sport Fishing.
 - f. Wildlife Habitat.
 - g. Preservation of Rare and Endangered Species.
 - h. Fish Migration and Spawning.
 - i. Estuarine Habitat.
9. Effluent limitation and toxic effluent standards established pursuant to Sections 301, 304, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.
10. Effluent limitation guidelines requiring the application of the best practicable control technology currently available (BPT) have been promulgated by the U.S. Environmental Protection Agency (EPA) for the Steam Electric Power Generating Point Source Category (40 CFR Part 423.12). Effluent limitations of this Order are based on these

guidelines, the Basin Plan, other State Plans and policies, and best professional judgement. The limitations are considered to be those attainable by BAT, in the judgement of the Board.

11. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code (CEQA) pursuant to section 13389 of the California Water Code.
12. The Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
13. The Board, in a public hearing, heard and considered all comments pertaining to the discharge permit.

IT IS HEREBY ORDERED that the Discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Prohibitions

1. The discharge of polychlorinated biphenyl compounds is prohibited.
2. Chemicals used in the air-cooled condenser for algae control or corrosion and deposition inhibition shall not contain copper, zinc, chromium or other heavy metal constituents.

B. Effluent Limitations

1. Waste 001 shall not have a pH less than 6.0 nor greater than 9.0.
2. Waste 001 shall meet the following acute toxicity limitations:

The survival of organisms in undiluted effluent shall be a 3-sample median value of not less than 90

percent survival, and a 90th percentile value of not less than 70 percent survival. The 3-sample median and 90th percentile effluent limitations are defined as follows:

3 sample median: If one of the past two or fewer samples shows less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.

90th percentile: If one or more of the past ten or fewer samples shows less than 70 percent survival, then survival of less than 70 percent on the next, 11th, sample represents a violation of the effluent limitation.

3. The temperature of the discharge shall not exceed a daily maximum of 86 F.

4. Representative samples of Waste 001 shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>30-Day Average</u>	<u>Daily Maximum</u>
Chromium(VI) (1)	ug/l		500
Copper(2)	ug/l		37
Zinc	ug/l		840
Total Suspended Solids	mg/l	30	45
Oil and Grease	mg/l	10	20

(1) The Discharger may at their option meet this limit as total chromium.

(2) Compliance with the copper concentration limitation shall be demonstrated by December 1, 1996. Concentration limitation of 200 ug/l shall apply until that time.

C. Receiving Water Limitations

1. The discharge shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths
 - c. Alteration of turbidity or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended or deposited oil or other products of petroleum origin, and
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The Discharge shall not cause the following limits to be exceeded in water of the State at any place within one foot of the water surface:
 - a. pH:

The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
3. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperature of more than 1 deg F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of Carquinez Strait at any point.
4. No discharge shall cause a surface water temperature rise greater than 4 deg F above the natural temperature of the receiving waters at any time or place.
5. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water

quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify the Order in accordance with such standards.

D. Provisions

1. The Discharger shall comply with all provisions of this permit upon its adoption by the Board except as noted below.
2. The Discharger shall investigate thoroughly, and implement all reasonable treatment and source control measures to reduce the concentrations of copper according to the following time schedule:

<u>Task</u>	<u>Deadline</u>
a. Determine sources and develop a source control and treatment proposal acceptable to the Executive Officer for copper reduction in Waste 001. This proposal shall include a program to assess the technical and economic feasibility of achieving compliance with the December 1, 1996 limitation specified in B.4 of this Order.	December 1, 1994
b. Commence work in accordance with the proposal and time schedule submitted pursuant to the above task as approved by the Executive Officer.	February 1, 1995
c. Submit quarterly progress reports summarizing the work accomplished, work underway, problems encountered and foreseen which affect compliance with limitation specified in B.4, and discuss steps taken to resolve such problems.	Each calendar quarter on the 15th day of the following quarter
d. Achieve full compliance with December 1, 1996 limitations for copper concentration in waste 001 as specified in B.4.	December 1, 1996

3. This permit may be reopened to amend the effluent limit for copper once the State Board adopts the site-specific water quality objective for copper for San Francisco Bay.
4. Neither the discharge nor its treatment shall create a nuisance or pollution as defined in Section 13050 of the California Water Code.
5. The Discharger shall comply with the attached Self-Monitoring Program as adopted by the Board and as may be amended by the Board pursuant to EPA regulations 40 CFR 122.62, 122.63, and 124.5.
6. The submittal of quarterly Self-Monitoring reports shall commence the quarter following the start up of operation.
7. The Discharger shall notify the Board 30 days prior to commencement of discharge.
8. Compliance with the acute toxicity limitation; in effluent limitation B.2. of this Order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent of 96 hours. Each fish species represents a single sample. The toxicity tests will be performed according to protocols approved by the U.S. EPA or State Board or published by the American Society for Testing and Materials (ASTM) or American Public Health Association. Two fish species will be tested concurrently. These shall be the most sensitive two species determined from concurrent screening(s) of three species: three-spine stickleback, rainbow trout and fathead minnow. If concurrent screenings have been conducted prior to this permit issuance, the existing data may be submitted to the Board. If such information is found to meet the requirement of the Basin Plan, further screenings would not be required.
9. The Discharger shall develop and submit a Best Management Practices (BMP) program to the Board by July 1, 1994. The BMP program shall be consistent with the EPA regulations 40 CFR 125, Subpart K and the general guidance contained in the "NPDES Best Management Guidance Document", EPA Report No. 600/9-79-045, December 1979 (revised June 1981). A BMP program acceptable to the executive Officer shall be implemented upon commencement of discharge.
10. The Discharger shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) acceptable to the Executive Officer. The SWPPP shall cover the entire facility owned and operated by the Discharger. It shall describe the management and handling of storm water

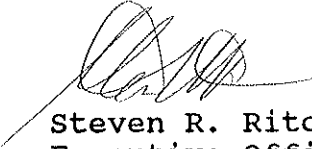
runoff from the facility, and measures taken to prevent contamination of storm water or discharge of pollutants with the stormwater. As part of the SWPPP, the Discharger shall 1) identify on a map of appropriate scale the areas which contribute runoff., 2) describe the activities on those areas and the potential for contamination of the runoff, 3) address the feasibility for containment and/or treatment of the storm water, and 4) propose a monitoring plan for the discharge from these areas. The Discharger shall submit the SWPPP acceptable to the Executive Officer by September 1, 1994. The Discharger shall implement the SWPPP within 30 days after approval of the plan by the Executive Officer.

11. The Discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated December 1986, except items B.3 and C.11.
12. The Discharger shall submit a contingency plan as required by Board Resolution No. 74-10, 60 days prior to commencement of discharge.
13. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulations (40 CFR 122.41k).
14. In the event of any change in control or ownership of land or waste, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.
15. Pursuant to Environmental Protection Agency regulations [40CFR122.42(a)] the Discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture a toxic pollutant not reported in the permit application, or d(2) a discharge of toxic pollutant not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits in 40 CFR 122.42(a).
16. This Order includes the attached "Standard Provisions, Reporting Requirements and Definitions" dated December 1986, except for items B.2, and C.8.
17. This permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge.

- a. Description of sample stations, times and procedures.
- b. Description of sample containers, storage, and holding time prior to analysis.
- c. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal and surrogate.

I Steven R. Ritchie, Executive Officer, hereby certify that the following Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established by this Board.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger and revisions may be ordered by the Executive Officer or Regional Board.


Steven R. Ritchie
Executive Officer

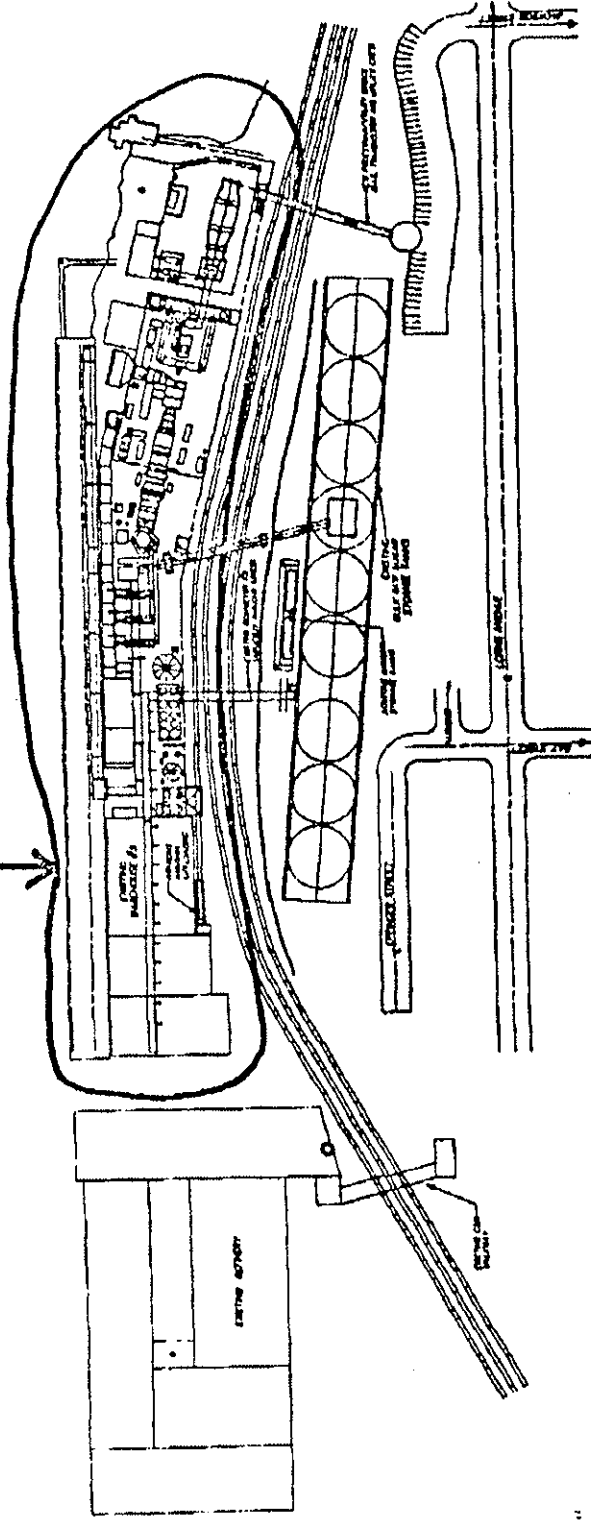
Effective Date 7/21/93

Attachments:
Table 1

Crockett Wogen. Plant 1844

1/2"

1/2"



1/2"

1/2"

OVERALL PLOT PLAN



		CROCKETT COGENERATION FACILITIES OVERALL PLOT PLAN G.E. FRAME 7FA OPTION	
		04-407800-A1-503	
FLUOR DANIEL			

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

CROCKETT COGENERATION,
A CALIFORNIA LIMITED PARTNERSHIP
CROCKETT, CONTRA COSTA COUNTY

NPDES NO. CA0029904

ORDER NO. 93 - 067

CONSISTS OF

PART A, (Dated December 1986)

AND

PART B

PART B

I. Description of Sampling Stations

A. Effluent

<u>Station</u>	<u>Description</u>
E-001	At any point in the Waste 001 outfall between Junction with C&H outfall and the point at which all waste tributary to that outfall is present.

B. Receiving Waters

<u>Station</u>	<u>Description</u>
C-10	At a point in Carquinez Strait, located in the boil caused by C&H Waste 001.
C-RE	At a point in Carquinez Strait, Located at edge of the C&H wharf at its easterly end.
C-RW	At a point in Carquinez Strait, located at the edge of the wharf at its westerly end.

II. Schedule of Sampling, Analysis & Observations

- A. The schedule of sampling and analysis shall be that given in Table 1 (attached).
- B. Sample collection, storage, and analysis shall be performed according to the latest 40 CFR Part 136 or other methods approved and specified by the Board.


III. Reporting

Self-Monitoring Reports shall be prepared quarterly and shall be received by the Regional Board by the fifteenth day of the month following the quarter (e.g. January-March report is due April 15th), unless no discharge has occurred.

- A. The Discharger shall retain and submit (when required) the following information concerning the monitoring program for organic and metallic pollutants.

18. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from the date of hearing provided the Regional Administrator, U.S. Environmental Protection Agency, has no objections.
19. This Order expires on July 21, 1998, and the Discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 21, 1993.



STEVEN R. RITCHIE
Executive Officer

Attachments:

Location Map
Standard Provisions, and Reporting
Requirements, December, 1986.
Self-Monitoring Program
General Industrial Stormwater Permit - Section A

TABLE I
SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

STATION	CONSTITUENT	UNIT	TYPE OF SAMPLE	FREQUENCY OF ANALYSIS
E-001	FLOW	gpd	CONTINUOUS	CONTINUOUS
	OIL & GREASE	mg/l	GRAB (1)	MONTHLY
	TSS	mg/l	24-HOUR-COMPOSITE	MONTHLY
	pH	pH UNITS	CONTINUOUS	CONTINUOUS
	TEMPERATURE	deg F	CONTINUOUS	CONTINUOUS
	ARSENIC	ug/l	24-HOUR COMPOSITE	YEARLY
	CADMIUM	ug/l	24-HOUR COMPOSITE	YEARLY
	CHROMIUM(VI)	ug/l	24-HOUR COMPOSITE	MONTHLY
	COPPER	ug/l	24-HOUR COMPOSITE	MONTHLY
	CYANIDE	ug/l	24-HOUR COMPOSITE	YEARLY
	LEAD	ug/l	24-HOUR COMPOSITE	YEARLY
	MERCURY	ug/l	24-HOUR COMPOSITE	YEARLY
	NICKEL	ug/l	24-HOUR COMPOSITE	YEARLY
	SILVER	ug/l	24-HOUR COMPOSITE	YEARLY
	ZINC	ug/l	24-HOUR COMPOSITE	MONTHLY
	TOXICITY	% SURVIVAL	COMPOSITE	QUARTERLY
	ALL APPLICABLE STANDARD OBSERVATIONS			MONTHLY

TABLE 1 - CONT.

STATION	CONSTITUENT	UNIT	TYPE OF SAMPLE	FREQUENCY OF ANALYSIS
C-10	ALL APPLICABLE STANDARD OBSERVATIONS			QUARTERLY
C-RE	PH	pH UNITS	GRAB	QUARTERLY
	TEMPERATURE	deg F	GRAB	QUARTERLY
	ALL APPLICABLE STANDARD OBSERVATIONS			QUARTERLY
C-RW	ALL APPLICABLE STANDARD OBSERVATIONS			QUARTERLY

LEGENDFREQUENCY OF ANALYSIS

Monthly = Once each month
 Quarterly = Once each quarter
 Yearly = Once each year

FOOTNOTE

- (1) Oil & grease sampling shall consist of 3 grab samples taken at 2-hour intervals during the sampling day, with each grab being collected in a glass container. The entire volume of each sample shall be composited prior to analysis. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsing shall be added to the composite waste water sample for extraction and analysis.

Section A: STORM WATER POLLUTION PREVENTION PLAN

1. A storm water pollution prevention plan (SWPPP) shall be developed and implemented for each facility covered by this general permit. The SWPPP shall be designed to comply with BAT/BCT and be certified in accordance with the signatory requirements of Standard Provision C.9. For existing facilities (and new facilities beginning operations before October 1, 1992), a SWPPP shall be developed and implemented no later than October 1, 1992. For facilities beginning operations after October 1, 1992, a SWPPP shall be developed prior to submitting a NOI and implemented when the facility begins operations. The SWPPP shall be retained onsite and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharge.
2. The Regional Water Board and/or local agency may notify the discharger when the SWPPP does not meet one or more of the minimum requirements of this Section. Within 30 days of notice, the discharger shall submit a time schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the changes. After making the required changes, the discharger shall provide written certification that the changes have been made.
3. The discharger shall amend the SWPPP whenever there is a change in construction, operation, or maintenance which may effect the discharge of significant quantities of pollutants to surface water, ground waters, or the local agency's storm drain system. The SWPPP should also be amended if it is in violation of any conditions of this general permit, or has not achieved the general objectives of controlling pollutants in storm water discharges.
4. The SWPPP shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from the facility. The SWPPP shall include, at a minimum, the following items:
 - a. A map extending approximately one-quarter mile beyond the property boundaries of the facility, showing: the facility, general topography surface water bodies (including known springs and wells), and the discharge point where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.
 - b. A site map showing:
 - i. The storm water conveyance and discharge structures;
 - ii. An outline of the storm water drainage areas for each storm water discharge point;
 - iii. Paved areas and buildings;
 - iv. Areas of pollutant contact, actual or potential;
 - v. Location of existing storm water structural control measures (i.e., berms, coverings, etc.);
 - vi. Surface water locations;
 - vii. Areas of existing and potential soil erosion; and
 - viii. Vehicle service areas.

- d. Spill Prevention and Response. Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, and clean-up equipment and procedures should be identified, as appropriate. Internal reporting procedures for spills of significant materials shall be established.
 - e. Storm Water Management Practices. Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharge shall be implemented.
 - f. Erosion and Sediment Controls. The SWPPP shall identify measures to reduce sediment in storm water discharges.
 - g. Employee Training. Employee training programs shall inform all personnel responsible for implementing the SWPPP. Training should address spill response, good housekeeping, and material management practices. Periodic dates for training should be identified.
 - h. Inspections. All inspections, visual observations and sampling as required by Section B, shall be done by trained personnel. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to these activities.
6. Non-storm water discharges to storm water conveyance systems shall be eliminated prior to implementation of this SWPPP. The SWPPP shall include a certification that non-storm water discharges have been eliminated and a description of any tests for the presence of non-storm water discharges, the methods used, the dates of the testing, and any onsite drainage points that were observed during the testing. Such certification may not always be feasible if the discharger a) must make significant structural changes to eliminate the discharge of non-storm water discharges to the industrial storm water conveyance system, or b) has applied for, but not yet received, an NPDES general permit for the non-storm water discharges. In such cases, the discharger must notify the appropriate Regional Water Board prior to implementation of the SWPPP that non-storm water discharges cannot be eliminated. The notification shall include justification for a time extension and a schedule, subject to modification by the Regional Water Board, indicating when non-storm water discharges will be eliminated. In no case shall the elimination of non-storm water discharges exceed three years from the NOI submittal date.
7. The SWPPP may incorporate, by reference, the appropriate elements of other program requirements (i.e., Spill Prevention Control and Countermeasures (SPCC) plans under Section 311 of the CWA, Best Management Programs under 40 CFR 125.100, etc.).
8. The SWPPP is considered a report that shall be available to the public under Section 308(b) of the CWA.
9. The SWPPP shall include the signature and title of the person responsible for preparation of the SWPPP and include the date of initial preparation and each amendment, thereto.

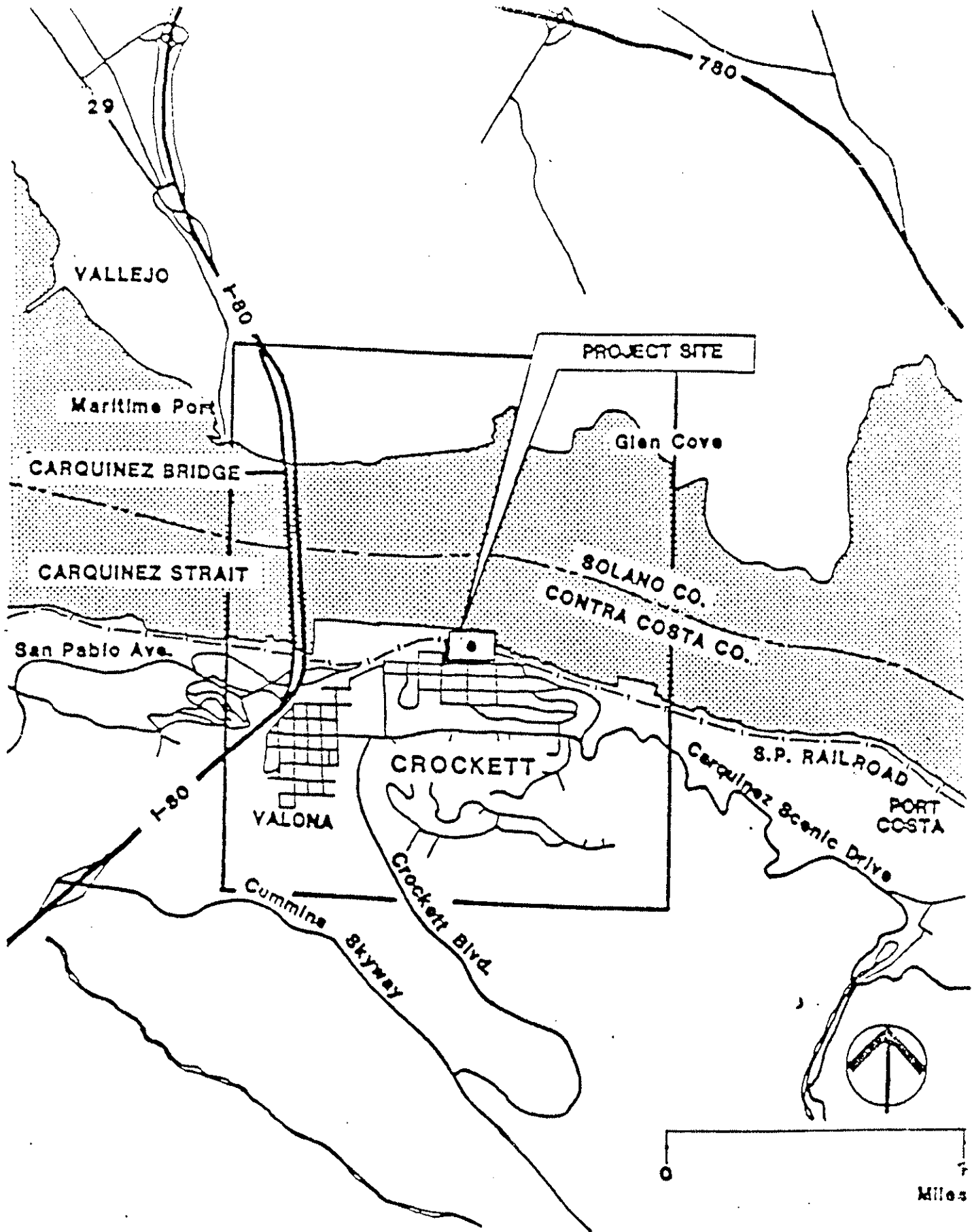


Figure 1
Facility Site